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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,149	08/16/2000	Krishnamurthy Vaidy Anathan	US 000206	1287

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EXAMINER

PHAN, RAYMOND NGAN

ART UNIT PAPER NUMBER

2111

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/639,149

Applicant(s)

VAIDY ANATHAN ET AL.

Examiner

Raymond Phan

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-11 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 17,18 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Part III DETAILED ACTION**

***Notice to Applicant(s)***

1. This action is responsive to the following communications: the argument filed on October 22, 2004.
2. This application has been examined. Claims 1-20 are pending.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 11-13, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen et al. (US No. 6,647,485) in view of Murakami et al. (US No. 5,001,629).

In regard to claim 1, Nguyen et al. disclose a instruction execution unit comprising a plurality of interface registers (i.e. register array) 472 that are configured to facilitate communication of data with a plurality of function units 478 (see figure 5, col. 32, lines 31-56). But Smyers et al. do not specifically disclose a plurality of register transfer unit, operably coupled to the plurality of interface registers, that facilitate transfers of data among interface registers of the plurality of interface registers. However Murakami et al. disclose register interfaces for facilitating the transfer of data, each register interface having plurality of registers (see figure 3, col. 3, line 22 through col. 4, line 43).

Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Murakami et

al. within the system of Nguyen et al. because it would achieve a faster implementation.

In regard to claims 2, 4, Nguyen et al. disclose the an instruction memory (i.e. load/store unit) 484 that is configured to contain register transfer instructions wherein the operable coupling of the plurality of register transfer units and the plurality of function units is effected via the register transfer instructions (see figure 5, col. 32, lines 43-49).

In regard to claim 3, Nguyen et al. disclose at least one data path portion, that facilitate a transformation of at least one data item of the data that is transferred among the interface registers (see figure 5, col. 32, line 50 through col. 33, line 35).

In regard to claim 11, Nguyen et al. disclose the method of receiving data at plurality of interface registers (i.e. register array) 472, operable to communicate with a plurality of function units 478 (see figure 5, col. 32, lines 31-56); allowing at least one of function units to process the data in at least one interface registers (see col. 32, line 50 through col. 33, line 35); allowing at least one of the function units to further process the data in at least one of the interface registers (see col. 33, lines 8-35). But Nguyen et al. do not specifically disclose the step of communicating the data among at least two of the interface registers using the plurality of register transfer units. However Murakami et al. disclose register interfaces for facilitating the transfer of data, each register interface having plurality of registers (see figure 3, col. 3, line 22 through col. 4, line 43). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Murakami et

al. within the system of Nguyen et al. because it would achieve a faster implementation.

In regard to claim 12, Murakami et al. disclose wherein the data among at least two of the interface registers comprises using register transfer instruction in the instruction memory to communicate the data among at least two of the interface registers (see figure 3, col. 3, line 22 through col. 4, line 43). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Murakami et al. within the system of Nguyen et al. because it would achieve a faster implementation.

In regard to claim 13, Nguyen et al. disclose the transforming (i.e. decoding) at least one data item of the data that is transferred among the interface registers (see col. 33, lines 8-35).

5. Claims 5, 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen et al. in view of Murakami et al. and further in view of Applicant Admitted Prior Arts (hereinafter AAPA).

In regard to claims 5, 14, Nguyen et al. and Murakami et al. teach the claimed subject matter as discussed above except the teaching of DSP. However AAPA discloses the use of DSP (see page 2 of present application specification). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of AAPA within the system of Nguyen et al. and Murakami et al. because it would help the bridge to process the digital data efficiently.

In regard to claims 15, Nguyen et al. disclose wherein receiving data comprising receiving stream of digital data (see col. 33, lines 8-35).

In regard to claim 16, Nguyen et al. disclose wherein generating a decoded signal using the stream of digital data (see col. 33, lines 8-35).

***Allowable Subject Matter***

6. Claims 6-10, 19 are allowable over the prior art of records.
7. Claims 17-18, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments, see pages 8-11, filed on October 22, 2004, with respect to the rejections of claims 1-5 and 11-16 under 35 U.S.C. § 03(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Nguyen et al. and Murakami et al.

***Conclusion***

9. Claims 1-5, 11-16 are rejected. Claims 6-10, 19 are allowed. Claims 1-18, 20 are objected.
10. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

**Hinds et al. (US No. 6,187,094)** disclose a recirculating register file.

**Karp et al. (US No. 5,689,653)** disclose a vector memory operations.

**Dowling et al. (US No. 6,799,269)** disclose a virtual shadow registers and virtual register windows.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

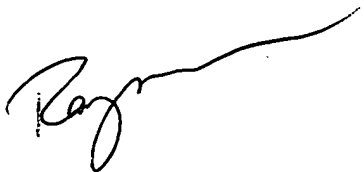
If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (571) 272-3639 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 central telephone number is (571) 272-2100.

A handwritten signature in black ink, appearing to read 'Raymond', with a long, sweeping horizontal line extending to the right.

**Raymond Phan**  
3/18/05